

Proposal Reviews

#223: Battle Creek Salmon and Steelhead Restoration Project

US Bureau of Reclamation

Final Selection Panel Review

Initial Selection Panel Review

Research and Restoration Technical Panel Review

Fish Screen and Passage Technical Review

Sacramento Regional Review

External Scientific Review

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Environmental Compliance

Budget

Final Selection Panel Review:

CALFED Bay-Delta 2002 ERP PSP Final Selection Panel Review

Proposal Number: 223

Applicant Organization: US Bureau of Reclamation

Proposal Title: Battle Creek Salmon and Steelhead Restoration Project

Please provide an overall evaluation rating.

Fund	
As Is	-
In Part	-
With Conditions	-
Consider as Directed Action	X
Not Recommended	-

Amount: **\$12,000,000**

Conditions, if any, of approval (if there are no conditions, please put "None"):

None.

Provide a brief explanation of your rating:

The comments from the Bureau of Reclamation, National Marine Fisheries Service, Fish and Wildlife Service, and Department of Fish and Game indicate support for the proposal and provide information on the timing effects, funding justification, and the problems with local and broader concerns over the effects of Coleman National Fish Hatchery (CNFH). The Selection Panel considered much of the funding information appropriate for a revised proposal, and remained unchanged regarding the timing and local concerns.

The Selection Panel encourages a timely revised proposal addressing comments in the panels initial recommendation. Should a revised proposal be submitted, the Selection Panel encourages: 1) Re-review and a fund/no-fund decision in a timely manner to prevent funding from significantly delaying the restoration process this year, and 2) a workshop on Battle Creek restoration and CNFH operations by late summer/early fall to address remaining issues related to restoration.

Initial Selection Panel Review:

CALFED Bay-Delta 2002 ERP PSP Initial Selection Panel Review

Proposal Number: 223

Applicant Organization: US Bureau of Reclamation

Proposal Title: Battle Creek Salmon and Steelhead Restoration Project

Please provide an overall evaluation rating.

Explanation of Recommendation Categories: Fund

- **As Is** (a proposal recommended for funding as proposed)
- **In Part** (a proposal for which partial funding is recommended for selected project phases or components)
- **With Conditions** (a proposal for which funds are recommended if the applicant contractually agrees to meet the specified conditions)

Consider as Directed Action in Annual Workplan (a proposal addressing a high priority action that requires some revision followed by additional review prior to being recommended for funding)

Not Recommended (a proposal not currently recommended for funding-after revision may be considered in the future)

Note on "Amount":

For proposals recommended as Fund As Is, Fund In Part or Fund With Conditions, the dollar amount is the amount recommended by the Selection Panel.

For proposals recommended as Consider as Directed Action in Annual Workplan, the dollar amount is the amount requested by the applicant(s).

Fund	
As Is	-
In Part	-
With Conditions	-
Consider as Directed Action	X
Not Recommended	-

Amount: **\$12,000,000.00**

Conditions, if any, of approval (if there are no conditions, please put "None"):

None.

Provide a brief explanation of your rating:

The supplement requested increases the fish benefits consistent with the goals of the original 1999 proposal CALFED ERP funded for \$28,000,000.

Two technical panels gave not recommended ratings to this proposal citing the proposal text as not justifying the benefits and costs of the supplementation. Four external science reviews gave a poor, good, and two excellents, while the regional review gave the proposal a high rating.

The Selection Panel does not see an immediate need for funding as the NEPA Draft is not out yet, local concerns have not been resolved, and the justification for the funding is inadequate.

The Selection Panel recognizes the very important value of the Battle Creek Restoration Project, and that this project should have been largely complete by now. The Selection Panel recommends the proponent revise and re-submit a clear, high-quality, critically reviewed supplemental funding request for consideration as a directed project. The re-submitted proposal should include documentation of resolved local concerns, an explanation of each of the supplementation needs, and dates for the need for supplementation funds. The Selection Panel recommends the re-submitted proposal include project completion dates and commitments to those dates.

Research and Restoration Technical Panel Review:

CALFED Bay-Delta 2002 ERP PSP Research and Restoration Technical Panel Review Form

Proposal Number: 223

Applicant Organization: US Bureau of Reclamation

Proposal Title: Battle Creek Salmon and Steelhead Restoration Project

Review:

Please provide an overall evaluation summary rating:

Superior: outstanding in all respects;

Above Average: Quality proposal, medium or high regional value, and no significant administrative concerns;

Adequate: No serious deficiencies, no significant regional impediments, and no significant administrative concerns;

Not Recommended: Serious deficiencies, significant regional impediments or significant administrative concerns.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Superior	The panel saw great value in the goals of the project set out in the 1999 proposal. However, this proposal appears to be a request for additional funds for cost overruns. Unfortunately the justification for the additional funding is not made in this proposal. Also of concern is the lack of local support.
-Above average	
-Adequate	
XNot recommended	

1. **Goals and Justification.** Does the proposal present a clear statement of goals, objectives and hypotheses? Does the proposal present a clear justification and conceptual model for the project?

No the goals are diffuse and request for supplemental funding to improve fish passage ladders and screens are difficult to understand and their importance is unclear. Twelve million is requested for screens and ladders while the proposal seems to be a restatement of the initial project request for \$28 million for Battle Creek restoration: addressing 9 dams several of which are to be removed outright. It is difficult to glean from the proposal what are the specific conditions at the dams, the current fish passage conditions and spawning habitat above the dams. The statement is made that the screens do not meet contemporary criteria established in a MOU. The MOU is not described and no information is provided on how they are out of criteria and the biological significance.

2. **Likelihood of Success (Approach, Feasibility, Capabilities and Performance Measures).** Is the project likely to succeed based on the approach, feasibility and project team capabilities? Are the proposed performance measures adequate for measuring the project's success?

The panel cannot evaluate the possibility of success given that no discussion or details are provided on how the funds will be spent or how performance will be measured quantitatively. The panel and the Region Review was concerned that the 3 year project started in 1999 has not apparently been completed.

3. **Outcomes and Products.** Will the project advance the state of scientific knowledge in general and/or make an important contribution to the state of knowledge of the Bay-Delta Watershed? For restoration proposals, is the project likely to contribute to ecosystem restoration or species recoveries in a significant way? Will the project produce products useful to decision-makers and scientists?

It is not possible to determine if the additional funding will improve fish runs or add to knowledge. It is not clear if the expected products are different from the 1999 funded proposal

4. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

The project is supplemental funding to a salmon-steelhead project with an initial cost of \$28,000,000. The request is for an additional \$12,000,000. The budget is unreasonable by virtue of there being no information of how the funds will be spent or what they will provide.

5. **Regional Review.** How did the regional panel(s) rank the proposal (High, Medium, Low)? Did the regional panel(s) identify significant benefits (regional priorities, linkages with other activities, local involvement) or impediments (local constraints, conflicts with other activities, lack of local involvement) to this proposal? What were they?

The regional review rates this project high priority. Concerns were expressed about the high cost and a vote-of-non-support by the Battle Creek Water Conservancy. Recent agency efforts have with BCWC have clarified the misconceptions. However, BCWC has not provided a letter of support for the project.

6. **Administrative Review.** Were there significant concerns about the proposal with regard to the prior performance, environmental compliance and budget administrative reviews? What were they?

Additional permits are required but they are feasible. The proposal does not provide details on operational and service expense components. Details for proposed contracts are not provided.

Miscellaneous comments:

The proposal contains no details on requested design alternations or increased monitoring. No information is provided on which to judge the competency of the design team. The panel notes however, that \$28 million were allocated in 1999 and now cost overruns are projected in 2001 at 43%.

Fish Screen and Passage Technical Review:

CALFED Bay-Delta 2002 ERP PSP Fish Screen and Passage Technical Review

Proposal Number: 223

Applicant Organization: US Bureau of Reclamation

Proposal Title: Battle Creek Salmon and Steelhead Restoration Project

Review:

Please provide an overall evaluation summary rating:

Superior: outstanding in all respects;

Above Average: Quality proposal, medium or high regional value, and no significant administrative concerns;

Adequate: No serious deficiencies, no significant regional impediments, and no significant administrative concerns;

Not Recommended: Serious deficiencies, significant regional impediments or significant administrative concerns.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Superior	No information is presented as to the specifics of design changes. No detail of any kind is supplied in the proposal which might permit an assessment of the marginal increase in expected benefits (marginal increase in "reliability") associated with the \$15 million in associated cost overruns (\$1 million of the \$16 million in overruns is associated with a 50% increase in NEPA/CEQA and "coordination" costs). For this reason, it is impossible to associate any benefit with the increased funding request.
-Above average	
-Adequate	
XNot recommended	

1. **Location in terms of potential impact on fishery.** Is the project located where it will significantly benefit the fishery? Do current fish passage barriers or water diversions there harm large numbers of fish? What species of anadromous fish are present? Is the project located where these species are in their most vulnerable life stages? Will it benefit other species of fish or the waterway's community and ecosystem? Does it restore and protect natural habitats or habitat values? Will its benefits be long-term, or short-lived? Is its biological effectiveness clearly demonstrable?

h Is the project located where it will significantly benefit the fishery?

Yes. This project will likely produce major salmon and steelhead benefits

h Do current fish passage barriers or water diversions there harm large numbers of fish?

Yes. This proposal is for supplemental funding for barrier removal and diversion screening

h What species of anadromous fish are present?

Winter run chinook, steelhead, spring chinook, fall chinook, late fall chinook

h Is the project located where these species are in their most vulnerable life stages?

Yes. Salmon are most vulnerable during the incubation, early rearing and adult marine life stages. Steelhead are most vulnerable during the incubation and early rearing life stages. Elements of this project are in areas where initial dispersion (swim-up fry) and early rearing life stages of both salmon and steelhead would be at risk.

h Will it benefit other species of fish or the waterway's community and ecosystem?

These supplemental funds will protect a major investment in increased winter run and steelhead natural production.

h Does it restore and protect natural habitats or habitat values?

These supplemental funds will protect a major investment in increased winter run and steelhead natural production

h Will its benefits be long-term, or short-lived?

Long term. Assume 30-50 year project life.

h Is its biological effectiveness clearly demonstrable?

Yes, but portions of the monitoring program proposed are vague and unwieldy

2. **Diversion taking a greater proportion of flow.** If the project is a fish screen, is the size of the diversion to be screened a significant proportion of the waterway's discharge?

Yes. Multiple diversions and ladders are covered by this supplemental funds request.

3. **Implementability** (minimal legal, regulatory or technical obstacles): Does the project use proven and existing technology, or unproven and experimental technology? Can it be implemented in a timely fashion, or are protracted delays anticipated? Are project partners, including consultants and subcontractors, qualified? Will legal, regulatory, or technical obstacles impede it? Can any adverse effects be reversed or adequately mitigated? Does it enjoy public support? Is it compatible with other programs and projects, which are part of an integrated restoration program for the waterway? Does it have synergistic effects with ongoing programs?

h Does the project use proven and existing technology, or unproven and experimental technology?

Proven

h Can it be implemented in a timely fashion, or are protracted delays anticipated?

Possible, but the proponents have a poor track record for timely execution

h Are project partners, including consultants and subcontractors, qualified?

Uncertain

h Will legal, regulatory, or technical obstacles impede it?

Possibly. Certain issues raised by local stakeholders remain unresolved.

h Can any adverse effects be reversed or adequately mitigated?

Yes.

h Does it enjoy public support?

Mixed. Some local groups' issues remain unresolved.

h Is it compatible with other programs and projects, which are part of an integrated restoration program for the waterway?

Yes.

h Does it have synergistic effects with ongoing programs?

Yes. The protection of increased winter run chinook, spring chinook and steelhead production will accelerate recovery of these listed stocks. The Battle Creek watershed represents the ONLY archetypal habitat assemblage for winter run, which are presently confined to a reach of the Sacramento River below their historic range and are subject to serious water quality and other risks. The Battle Creek watershed would provide both an expanded habitat range and a refuge from other risks.

4. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

No. Impossible to tell. The proposal is for \$12 million of supplemental funds to cover anticipated cost overruns for several major passage and screening elements in the overall Battle Creek Restoration Project. On a project-wide basis, anticipated overruns amount to 43% of the originally-authorized \$28 million. Cumulatively, anticipated overruns total \$16.0 million; these are partially offset by anticipated savings on other elements of \$3.9 million.

Reasons for overruns given in the proposal are vaguely stated but are generally consistent for those project elements with significant upward adjustments:

h Modified flow criteria for ladder design h ;\$Refinements;" in screen design h Difficult access and constructability

The great majority of cost increases are attributed in the proposal to ;\$MOU commitments calling for high reliability of screens and ladders;" which led to significant design changes. This is the only detail given. No information is presented as to the specifics of design changes. No detail of any kind is supplied in the proposal which might permit an assessment of the marginal increase in expected benefits (marginal increase in ;\$reliability;" associated with the \$15 million in associated cost overruns (\$1 million of the \$16 million in overruns is associated with a 50% increase in NEPA/CEQA and ;\$coordination;" costs). For this reason, it is impossible to associate any benefit with the increased funding request.

One is led to wonder if those who

5. **Partnerships/Opportunities.** Does the project fully involve appropriate partners? Are the applicants willing participants? Are other cost-sharing funds available, and fully exploited?

h Does the project fully involve appropriate partners?

For the most part. The Battle Creek Working Group has apparently begun working constructively with the Battle Creek Watershed Conservancy. Greater NMFS engineering involvement may help.

h Are the applicants willing participants?

Yes

h Are other cost-sharing funds available, and fully exploited?

Uncertain

6. **Regional Review.** How did the regional panel(s) rank the proposal (High, Medium, Low)? Did the regional panel(s) identify significant benefits (regional priorities, linkages with other activities, local involvement) or impediments (local constraints, conflicts with other activities, lack of local involvement) to this proposal? What were they?

h How did the regional panel(s) rank the proposal (High, Medium, Low)?

High, with significant reservations. These include:

h High initial cost plus overruns (\$4.5 million of the originally allocated \$28 million has been spent to date)

h Very significant project delays in spite of extreme project urgency: "A clear message needs to be sent to the proponent that this project should be completed by now. This project was funded in 1999 as a three year project."

h Poorly written proposal: "Does not clearly lay out what this supplemental funding would do that the original money was not able to do (i.e. cost over-run)"

h "Poor justification for increased costs and a poor status update.

h "Cumbersome" performance measures.

h Lack of explanation of how "new products" would differ from "old products" (i.e., no specificity regarding design changes and associated benefits).

h Failure to address how stakeholder concerns would be resolved.

h Did the regional panel(s) identify significant benefits (regional priorities, linkages with other activities, local involvement) or impediments (local constraints, conflicts with other activities, lack of local involvement) to this proposal? What were they?

Yes. Very clear linkages were identified with T/E listed stock recovery (winter run chinook, steelhead): "Immediate project implementation would provide the fishery [sic.] resources the most benefit." The reviewer also noted continuing unresolved "issues" with the BCWC.

7. **Administrative Review.** Were there significant concerns about the proposal with regard to the prior performance, environmental compliance and budget administrative reviews? What were they?

Budget review noted inadequate justification of major expenses. This is VERY SIGNIFICANT because the entire purpose of the proposal is to secure funding for major expense item overruns!

Miscellaneous comments:

This very important project is burdened with "process" to the point that the mission is threatened. This situation needs fixing immediately. Several recommendations can be made:

Implement a fast-track Performance Audit of the Battle Creek Restoration Project. Identify project implementation bottlenecks and eliminate them.

Quantify the increases in "reliability" of individual project elements associated with increased costs. Document these cost/benefit determinations.

Based on the incremental changes in individual element reliability, re-evaluate the MOU calling for "state of the art" reliability of screens and ladders in light of cost increases precipitated by this agreement.

Re-perform a value engineering analysis as appropriate based on the reconsideration of the MOU.

Revisit the performance measures, especially those associated with Population Objectives. These are extremely cumbersome and often vaguely stated. Associated monitoring and assessment approaches do not appear to be efficient.

Streamline the NEPA/CQUA process to the maximum extent possible. Re-assess costs and potential savings associated with this element.

Accomplish the above without further delaying the project. This will require aggressive attention to both budget and timing matters.

Sacramento Regional Review:

Proposal Number: 223

Applicant Organization: US Bureau of Reclamation

Proposal Title: Battle Creek Salmon and Steelhead Restoration Project

Overall Ranking: -Low -Medium **XHigh**

Provide a brief summary explanation of the committee's ranking:

The panel rated this project as high due to extreme support for opening habitat/passage for salmon and steelhead blocked by hydropower structures/operations. There was concern about the high cost; and concern about the status of the perceived lack of support from the BCWC due to their vote-of-non-support in May 2001. In the intervening time, all four agencies involved in restoring the Battle Creek watershed have worked closely with the BCWC Board to clarify misconceptions and write a "4 agency response" to the BCWC. Since that time, members of the BCWC have been participating in restoration efforts/outreach/meetings and with positive results. The committee recommended that the Selection Panel might consider assessing the current support by requesting a letter from BCWC prior to funding this project or setting up the contract.

1. Is the project feasible based on local constraints?

XYes -No

How?

Fish passage issues stemming from historic hydropower modifications are the paramount concern for fish restoration in the Battle Creek watershed. This proposal would provide "supplemental funding" to finish the project begun in 99 to modify hydropower structures and increase flows. This funding would be additive to the \$28 million that CALFED funded this project for in 1999. Over the past three years, \$4.5 million has been spent. The current project schedule calls for the last construction award to occur by Sept 2002.

2. Does the project pursue the restoration priorities applicable to the region as outlined in the PSP?

XYes -No

How?

This proposal meets ERP's Goal 1,2 4; CVPIA/AFRP goals (3 actions out of 12)

3. Is the project adequately linked with other restoration activities in the region, such as ongoing implementation projects and regional planning efforts?

XYes -No

How?

This project is the major focus of restoration need and effort in Battle Creek. Ideally, it would have been beneficial to have a comprehensive watershed restoration strategy in place prior to this hydropower restoration project gaining funding, but the involved parties were cognizant that immediate project implementation would provide the fishery resources with the most benefit.

4. Does the project adequately involve local people and institutions?

XYes -No

How?

The Battle Creek Watershed Conservancy and Battle Creek Working Group discuss this project at their regular meetings. The Project Manager has been meeting with interested people/adjacent landowners individually to describe the project. Additional outreach to accurately describe this project to local interested parties and agencies is needed. Concerns: Page 40 refers the BCWC as the entity to handle/store and disseminate data; but this group may not be set up to handle this task. Page 52 refers to the concern of some stakeholders/landowners about compatibility of the hatchery operations with the watershed restoration effort, but does not describe how this concern has been, or is, being alleviated(e.g. ongoing stakeholder involved efforts exist in the Hatchery Re-evaluation process, Hatchery Management Alternatives Process, Barrier weir modifications and intake screening).

Other Comments:

A clear message needs to be sent to the proponent that this project should have been completed by now. This project was funded in 1999 as a three year project. The proposal is poorly written (e.g. lacks literature citations, contains multiple typographic errors,) and does not clearly lay out what this supplemental funding would do that the original money was not able to do (i.e. cost over-run). The proposal contains a poor justification for increased costs and a poor status update. The performance measures appear cumbersome. Are the expected products new or different from the products identified in the 99 funded proposal? Also, the work schedule that is shown is more of a modification to the 99 proposal than new info.

External Scientific: #1

Research and Restoration External Scientific Review Form

Proposal Number: **223**

Applicant Organization: **US Bureau of Reclamation**

Proposal Title: **Battle Creek Salmon and Steelhead Restoration Project**

Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Excellent	The requested amount is simply not justified by the proposal. The proposal contains superfluous information and does not quantify or detail the issues related to the funds.
-Good	
X Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

No the goals are diffuse and request for supplemental funding to improve fish passage ladders and screens are difficult to understand and their importance is unclear. Twelve million is requested for screens and ladders while the proposal seems to be a restatement of the initial project request for \$28 million for Battle Creek restoration: addressing 9 dams several of which are to be removed outright. It is difficult to glean from the proposal what are the specific conditions at the dams, the current fish passage conditions and spawning habitat above the dams. The statement is made the screens do not meet contemporary criteria without providing information on how much they are out of criteria and the biological significance.

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

Each stream reach was categorized by professional judgment. Five grading for habitat quality are mentioned: all are qualitative, using working such as very large amounts of cold water accretion, Adequate pools for adult holding. The grading scheme doesnt appear to have much value. Justification relies on Battle Creek Salmon and Steelhead restoration Plan (Ward and Kier 1999). No information or reviews of the plan were provided so I cannot judge if the claimed justification for the additional funds is acceptable. That is, can the habitats support salmon justifying the expenditures of screens and ladders, irrespective of the request for additional funds to design better screens and ladders prior to hydraulic and biological studies.

Eleven hypotheses are stated concerning population, habitat and passage. They are simply statements that the project will meet unspecified criteria.

One basis of the justification seems to involve structures that will allow less adult passage delay under high flows. No mention of the amount of delay, the level of flows, and the significance of the delays is detailed. I dont know if these delays are significant and there is no mention of research to determine the significance.

Many statements in the justification are irrelevant. For example justification discusses removal of dams on the lower river (Colman and Wildcat diversions dams will open up resources.) These project do not require any of the additional \$12,000,000 in fund. In fact these two projects are projected to come in under cost.

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

The funds are for improvement of the passage facilities: No quantitative information is made of how the facilities will be improved. No information is available on what will be gained by the additional 50% increase in funding. In particular, no information is given for a construction plan of screens, costs and assessment of problems and approaches to over coming problems expected with changes in flows, current conditions at passage facilities at the dams, or even if all dams have functioning passage facilities.

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

I cannot evaluate the possibility of success given that no discussion or details are provided on how the funds will be spent or how performance will be measured quantitatively.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

Twelve pages of performance measures are given and cover in general terms restoration of salmon in Battle Creek. Performance measures are vague and redundant. Example Objective 2 is Restore and recover the assemblage of anadromous salmonids that inhabit the stream cooler

reaches during the dry season. Objective 3 contains the same wording with replacement of dry season with fish that spawn in the wet season. In both examples the monitoring will continue for 16 years. However the proposal is for installation of screens over a three year period. In either case population performance measures are difficult to assess because climatic and oceanographic factors will produce a majority of variability in stocks. It is not clear that impacts of screens can be determined at the population level without data spanning the decadal level climate cycles, which may have a 60 year period.

For assessing performance of adult fish ladders the approach will include video or electronic counters. Costs are not identified for this activity, nor are the facilities identified on a project specific basis. Compare spawner counts with ladder distribution: how this is useful for identifying ladder effectiveness is unclear. Study fish passage with tagged test fish and/or radio tracking: no information is given on number of fish needed location of radio transmitter and no references are cited to other extensive studies being conducted in other regions.

On page 9 of the 12 page Table 6 a critical statement of the problem emerges standards/guidelines or contemporary criteria are changed and evaluation of the existing ladders, according to contemporary testing protocols, demonstrates a significance exceedence from standards/guidelines/criteria. It is not clear what the criteria are, which if any dam exceeds the criteria.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

It is not possible to determine if the additional funding will improve fish runs or add to knowledge.

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

The capabilities are inferred in terms of the agencies for which the staff work. No qualifications are provided to named individuals, or mention of their years of experience, their education or background. The applicants have not received CALFED funding previously. A project was funded for a water acquisition program but no indication of capital work has been noted. The \$28 million apparently came from another source? I cant tell from the proposal.

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

The project is supplemental funding to a salmon steelhead project set an initial cost of \$28,000,000. The request is for an additional \$12,000,000. Break down by task (+ = savings) follows: Task 1 Wildcat diversion dam: +\$ 1 million saving by design refinement Task 2 eagle canyon dam: -\$2million calling for high reliable screens modified flow criteria and difficult access. Task 3 north Battle Creek diversion: -\$1.4 million. MOU commitments called for higher reliability screens modified flows criteria for ladder design resulted from this assessment. Need for access road was included. Task 4. South diversion dam: + \$ 0.27 million Task 5. Inskip diversion dam: - \$6.7 million high reliability screens and ladders Task 6 Coleman diversion: +\$ 1.3 million savings Task 7 Colman dam Inskip powerhouse bypass: -\$4.7 million need for additional hydraulic design changes Task 8 environmental monitoring and permitting: -\$ 1 million additional costs associated with environmental coordination and project management with FERC Task 9 management: + 0.3 million cost savings in management

Miscellaneous comments:

The proposal contains no details on requested design alternations or increased monitoring. No information is provided on which to judge the competency of the design team. It is noted however that \$28 million were allocated in 1999 and now cost overruns are projected in 2001 at 43%.

External Scientific: #2

Research and Restoration External Scientific Review Form

Proposal Number: **223**

Applicant Organization: **US Bureau of Reclamation**

Proposal Title: **Battle Creek Salmon and Steelhead Restoration Project**

Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

None

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Excellent	My miscellaneous comments largely express my concerns. The project, even if marginally successful, has huge potential benefits to society, agencies involved and the utility. Can they identify and capture sufficient resources to support such a huge effort? Adequate long-term monitoring is a must; anything less would weaken the likelihood of success. Proposed monitoring looks solid, focused, and leading in the right direction.
X Good	
-Poor	
	A clearer presentation would have provided a stronger rating.

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

Goals, objectives and hypotheses are clearly stated and consistent.

The concept of increasing suitable habitat for salmon and enhancing passage for migratory salmonid fishes is indeed timely and important. The potential benefits to society by improving spawning and rearing habitat for ESA listed species are huge. Economic and societal benefits are numerous for this project.

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

According to the proposal, numerous Acts/Programs and Plans have been written that justify this restoration project. No literature is referenced, however.

The justification is reasonably supported in the proposal. Decommissioning dams, improving out-dated and nonfunctioning fish passage related conveyances are socially and biologically justifiable. The potential benefits of biological success provide sufficient justification.

The conceptual model is clearly stated. The "weakest link" appears to be in the basis of the work. Much is supported by professional judgement and reports in grey literature in lieu of scientifically evaluated and critiqued data. Infrequent references of reports/publications are made throughout the proposal although a reference list was not included in the electronic version of the proposal.

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

The approach for this proposal is confusing largely because of the enormity of the proposed project. After several readings, it became clearer that multiple projects are associated with this project and that this effort deals principally with facility construction. The current proposal has two Tasks. The proposal applies a multifaceted adaptive management approach designed to achieve solutions to habitat related problems with multiple feedbacks. Construction of the physical structures must precede development of the adaptive management framework. The associated criteria, although worded more like tasks than criteria, confound the proposed effort at restoration of the physical structures in the Battle Creek drainage. Generalizations replace detail although the nature of the project precludes much in-depth coverage. The overall project once completed should contribute to a much needed knowledge base of habitat restoration. It is unlikely that the entire project will generate unique information but it should complement some of the restoration efforts in the Columbia basin. The proposed effort is highly focused on the physical structures affecting the Battle Creek salmon runs and as presented, the bulk of the information will be directly applicable to the Battle Creek ecosystem. Undoubtedly, new methodologies should emanate from the monitoring work that is complementary to the construction aspects of this project.

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

The technical feasibility of the project seems high. The success of the facility construction should be high and the author alludes to a wealth of information that has been collected to scientifically support the structural construction. The potential success of the overall project lies with the ability to have complete facility assessment, refine facilities design and operations, based on continued assessments, and move ahead with this adaptive approach. The question of defining success may provide controversy in the future and should be mutually agreed upon by the multiagencies involved at this planning stage. Temporal variations in climatic conditions may confound interpretations and lead to premature and ineffective structural changes.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

Performance measures seem critical to the success or failure of this project. A detailed list of monitoring plans for multiple resource agencies are presented that in a general fashion provide direction for monitoring the success of the overall project. Monitoring plans are projected for nearly 2 decades although their general nature make assessments and feedback loops a little unclear on direction. Again the huge scale of the project, the multigovernment agencies and private power company involved require generalized performance measures. Cooperative funding as suggested in the performance Measures also enhances the potential for success.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

The ultimate PRODUCT could be complete or partial restoration of ESA listed fishes in the Battle Creek system. The principal output from this part of the overall project is completed construction of the physical features. The products presented in the proposal suggest multiple documents associated with the physical construction such as design reports, monitoring plans, adaptive management plan, etc. I believe in addition to the physical structural modifications, development of a formal monitoring plan should be the most valuable product. Yes, I think interpretive outcomes are likely products. Considering the slightly different focus of this project, being on facility construction, products from the monitoring component will probably be minimal.

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

The performance record of the author is unclear although this project represents a team approach. All parties seem to have interest from statutory responsibilities that should assure some success. Project success remains a function of team efforts and especially leadership. Considering MOUs have been written, the potential for success seems considerably higher than might occur earlier in the process.

I do not question the commitment of the agencies to successfully complete this project. I do not fully understand which one will take the lead. This aspect of the proposal could have been enhanced by a figure detailing specific agency responsibilities.

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

The budget is too general to assess its reasonableness. However, not being an engineer would probably lessen my ability to comprehend and interpret engineering costs estimates. The information provided gives little idea of more than minor breakdowns of the budgeted monies. I feel it is difficult to evaluate whether \$12 million is reasonable or not. The size or magnitude of the construction projects is not presented so even speculation on costs is difficult. Often, accessibility of sites is a large factor that can escalate construction costs beyond expected estimates.

I believe it would have been beneficial to have the major budget items identified beyond what they were. Construction costs are rediculously expensive for physical structural modifications that are proposed.

Miscellaneous comments:

Evaluation of this project is confounded by the lack of clear delineation of this effort relative to the accompanying and necessary monitoroing. The connectivity to other projects that involve monitoring is not clear and none of these projects appear to be "stand alone". This project seems huge in scope involving multifederal and state agencies l and private. Proposed allied monitoring responsibilities lie with PG&E, CaF&G, and USFWS. Can this combined effort be successful? This is a difficult question to answer based on the proposed project. Considering that the governmental agencies involved have statutory responsibilities and that MOUs have already been written further increases the probability of success.

Confidence could have been elevated by a presentation of a phased effort showing in a step manner how the process will progress, the palyers and their repsonsibilities; i.e. Phase 1-Preliminary assessment-data collected-CaF&G, USFWS- already and showed this -----; Phase II-Facilities construction; Phase III-Concurrent monitoring, etc.

External Scientific: #3

Research and Restoration External Scientific Review Form

Proposal Number: **223**

Applicant Organization: **US Bureau of Reclamation**

Proposal Title: **Battle Creek Salmon and Steelhead Restoration Project**

Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
X Excellent	Excellent project for tying objectives to results and prospects for substantial improvement to an important salmon stream that is currently highly modified and of low capacity.
-Good	
-Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

The proposal has a large number of closely integrated, goals, objectives and hypotheses that are well presented. It is a clear presentation of a complex project.

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

There is a good relationship among concepts, proposed work and the expected outcomes. There is a good justification for the physical alterations and expected benefits on this highly disturbed system.

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

The proposal presents an excellent plan for restoration by removing dams and structures and improving other features which should restore much of this highly modified system.

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

There is a high likelihood of success and a well documented approach to the work.

Evaluation of success (biological) will likely extend well after physical changes from dam removal and associated structures. Because of this disturbance, biological recovery will likely be delayed until after the project completion.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

The measures given are explicit and quantified for the many tasks and objectives but many will unlikely be valid for some time after physical disturbance.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

The proposal is a good roadmap for predicting outcomes and estimating results. Overall the project should improve conditions for many species by measured amounts. The connection between actions and outcomes is detailed and could provide extension to other, similar projects.

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

The work group has excellent experience, previous familiarity with the system, and understanding of complex projects.

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

The cost is high due to the engineering and physical changes necessary but the project has high potential for substantial improvement of habitat for salmonids and other species. The full benefits will probably occur after completion of the period of this project.

Miscellaneous comments:

Excellent integration of a complex project with good explanation of the various elements.

Detailed connection of objectives to measureable outcomes is a very strong element of the project.

External Scientific: #4

Research and Restoration External Scientific Review Form

Proposal Number: **223**

Applicant Organization: **US Bureau of Reclamation**

Proposal Title: **Battle Creek Salmon and Steelhead Restoration Project**

Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

None

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
X Excellent	The monitoring/evaluation effort is especially good, while project rationale, goals, and objectives appear to be well supported by previous studies.
-Good	
-Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

Goals , objectives, and hypotheses are clear and internally consistent. The overall goals of increasing salmonid survival rates and abundance are certainly timely, given the status of the affected stocks.

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

The project appears well-justified. The conceptual model is clear and explains the underlying basis for dam removal, modification of existing projects, flow augmentation, and ramping rules. The full-scale implementation appears justified, based on extensive pre-project surveys and analysis.

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

The approach is well-designed and appropriate. The results appear likely to add to the existing knowledge base, especially if systematic comparisons of CRR, abundance, etc. for project vs. reference areas is carried out. This information on project effects should be of to those making decisions on similar projects in future.

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

The approach is well-documented and appears technically feasible. The likelihood of success appears high, but is predicated on sufficient adult returns to both utilize the improved habitat and produce juveniles to be used in monitoring the biological effects of habitat modification. Project scale appears consistent with the objectives.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

Appropriate performance measures are included in the proposal. There is adequate detail on how performance measures (e.g., CRR, juvenile production) will be quantified and compared to reference streams. The monitoring plan is sufficient to determine that performance measures will be adequately assessed, especially since the objectives call for increases relative to existing conditions and reference areas.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

The products of the monitoring program are likely to be of value for assessing the potential effects of similar projects elsewhere. Quantitative assessment of the effects of the Battle Creek project itself seems the most likely interpretive outcome, and should be useful in its own right.

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

I am not familiar with the applicants' past track record, except as it is laid out in the proposal itself. They appear to be well qualified, and to have the available infrastructure to accomplish project objectives.

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

The budget appears adequate for the project, but I am not a civil engineer, and so must take the applicants? assurance on this point at face value.

Miscellaneous comments:

Environmental Compliance:

Proposal Number: 223

Applicant Organization: US Bureau of Reclamation

Proposal Title: Battle Creek Salmon and Steelhead Restoration Project

1. Are the legal or regulatory issues that affect the proposal identified adequately in the proposal?

-Yes ☒No

If no, please explain:

May need State Land Commission Lease and/or Reclamation Board Encroachment Permit. All other permits and documentation seem to be in progress or obtained.

2. Does the project's timeline and budget reflect adequate planning to address legal and regulatory issues that affect the proposal?

-Yes ☒No

If no, please explain:

May need a small amount of additional funding if the above permits are required.

3. Do the legal and regulatory issues that affect the proposal significantly impair the project's feasibility?

-Yes ☒No

If yes, please explain:

As long as all necessary permits are obtained, project is feasible.

Other Comments:

Budget:

Proposal Number: 223

Applicant Organization: US Bureau of Reclamation

Proposal Title: Battle Creek Salmon and Steelhead Restoration Project

1. Does the proposal include a detailed budget for each year of requested support?

☒Yes -No

If no, please explain:

2. Does the proposal include a detailed budget for each task identified?

☒Yes -No

If no, please explain:

3. Does the proposal clearly state the type of expenses encompassed in indirect rates or overhead costs?

-Yes ☒No

If no, please explain:

Percentages are provided for varying offices, however, operational and service expense component detail is not provided.

4. Are appropriate project management costs clearly identified?

☒Yes -No

If no, please explain:

5. Do the total funds requested (Form I, Question 17A) equal the combined total annual costs in the budget summary?

☒Yes -No

If no, please explain (for example, are costs to be reimbursed by cost share funds included in the budget summary).

6. Does the budget justification adequately explain major expenses?

-Yes ☒No

If no, please explain:

Detail is not provided for proposed construction contracts, however, applicant notes that revealing cost estimates will undermine the bidding process. Table 3 does provide some anticipated costs to support major expense data.

7. Are there other budget issues that warrant consideration?

-Yes ☒No

If yes, please explain:

Other Comments: